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Performance evaluation protocol for digital fitting systems —

Part 3: Digital fitting performance - Gap

Protocole d'évaluation de la performance des systèmes d'habillage virtuel —

Partie 3: Performance de l'habillage virtuel - Écart

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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This document was prepared by Technical Committee ISO/TC 133, *Clothing sizing systems - size designation, size measurement methods and digital fittings*.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

Digital fitting systems are used more frequently for evaluating the fit of garments without making actual physical patterns or physical garments. In a digital fitting system, a virtual garment is made using virtual patterns, and the fit of physical garment on a physical human body is assessed by draping a virtual garment on a virtual body or a virtual fit mannequin (fit form) model. Such system is useful for designers, manufacturers, educationalists because the system helps to improve the fit of garments and productivity.

The use of the digital fitting system, employed to evaluate the suitability of a real garments on real human body with the use of virtual garments on a virtual human body in virtual space, is growing in popularity. The system eliminates the need for physical garment production with fabric in product evaluation. Using a computer-generated virtual garment pattern, the virtual garment is created and tested on either a virtual human body or a virtual fit mannequin (fit form) model. It benefits not only those engaged in garment design but also consumers at the time of garment purchase, with better fit and wider choice of sizes in mass-produced products.

Digital fitting technology is still developing, and there is a wide range of differences in the specification and performance between digital fitting systems. This makes it difficult for users (designers, manufacturers, educationalists and retailers of garments) to select an appropriate system for their purposes.

This document evaluates gap, including garment pressure, which is an important factor in wearing comfort.

The users of this document are those users planning to install or update digital fitting systems. This document will help and provide judging criteria for selection of digital fitting system when garment designer or pattern engineer create virtual garment patterns and evaluate fitting performance to virtual fitting body.

The document should be viewed or printed in colour to clearly understand the performance evaluation as indicated in the figures.

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Performance evaluation protocol for digital fitting systems —

Part 3:
Digital fitting performance - Gap

1 Scope

This document specifies a protocol employed in evaluating the gap between the virtual garment and the virtual clone, the virtual twin or the virtual fit mannequin (fit form) model in the evaluation of the fitting performance of the virtual garment and the virtual human body.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
digital fitting system
qualitative and/or quantitative evaluation of overall and/or specific simulation garment fit through analysis of the distribution of surface strain, gap between body and garment, tension map, cross section, surface wrinkles, garment balance, etc.

3.2
virtual garment
three-dimensional clothing in digital form that exists in virtual space

[SOURCE: ISO 20947-2:2020, 3.1.3]

3.3
virtual human body
virtual human model based on actual body dimensions used for digital fitting in the apparel industry, including information such as size, shape, cross section, body texture and skeletal structure

[SOURCE: ISO 18825-1:2016, 2.1.1.2, modified — Notes to entry removed.]

3.4
virtual fit mannequin (fit form) model
virtual model based on approved dimensions used for draping and examining silhouette and fit of a garment in a virtual space used for digital fitting

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